

S(arah) Mason Garrison
September 17, 2018
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Prof. Kristi Multhaup
Chair, Department of Psychology
Davidson College
Davidson, North Carolina

Dear Prof. Kristi Multhaup and members of the search committee,

I am applying for the advertised Assistant Professor of Quantitative Psychology position (492831) in the Department of Psychology at Davidson College. I am a Ph.D candidate in Quantitative Methodology at Vanderbilt University's Department of Psychology and Human Development. I anticipate defending my dissertation by May, 2019.

Your advertisement noted interest in candidates with advanced statistical training, who will involve undergraduates in their research and teach statistics courses. As you will see in greater detail in my research statement, my research interests reflect the historic symbiosis between quantitative methods and differential psychology: my substantive work on individual differences and health inequity inspires my quantitative work, whereas my quantitative work on biometrically-informed designs facilitates my substantive work. My research emphasizes accessible designs, and often employs publicly-available data. I have experience mentoring undergraduate and gifted high school students in regression-based research.

I have two lines of research that examine the evaluation of biometrically-informed designs for psychology and their application to understanding health inequity. In my substantive work, I focus on how individual differences, such as conscientiousness and intelligence, influence the relationship between socioeconomic status and health. In my methodological work, I focus on developing and improving biometrically-informed designs, such as behavior genetic models and discordant kin models. These designs strengthen our ability to make causal inferences by leveraging environmental and genetic information.

I have received external funding for the intersection of this research; I was awarded a three-year research fellowship (\approx \$138,000) from the National Science Foundation and competitive smaller travel and training grants from outside universities, professional organizations, and private foundations. These funding streams are often available undergraduates (e.g., NSF), but aren't well advertised. As an Assistant Professor, I would pursue similar funding streams, and actively encourage students to pursue those streams of external funding.

With respect to teaching at the undergraduate level, I could teach the Research Design and Analysis course (310), introductory statistics classes, and topical surveys in regression, quantitative psychology, measurement, and personality. Further, I could teach specialty courses in data visualization/

graphical data analysis, data analysis in R, and Lying with Statistics. In my Lying with Statistics class, I emphasized how statistical methods can be misused, and worked with my students to present two contradictory stories with the same data. Beyond learning the classic statistical methods, we discussed research ethics, consequences of data fraud, detecting fake news, and effective data visualization. My goal was to encourage students to become more statistically literate and good consumers of data. Many of these courses, including Lying with Statistics, could be cross-listed as electives for the data science interdisciplinary minor.

The department's long-standing commitment to undergraduate research and development makes this position particularly appealing. I would look forward to the opportunity to develop project-based statistics courses, where students apply the statistical tools they've developed to address questions interesting to them. Further, I would enjoy collaborating both within the department and across departments, including the Health and Human Values department as well as the Data Science program.

I have enclosed my vita, and statements of research, teaching, and diversity; my letters of reference will be submitted by Professors Joseph Lee Rodgers (joseph.l.rodgers@vanderbilt.edu), Kristopher Preacher (kris.preacher@vanderbilt.edu), and Jeremy Biesanz (jbiesanz@psych.ubc.ca). I am available via email and telephone (1.267.357.4392) to answer any questions. Thank you for considering my application.

Sincerely,

S. Mason Garrison